

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)
2. (Previously Presented): A valve according to claim 11, wherein the disc includes a portion that is directly connected to the internal wall of the second duct without steps or discontinuities which might obstruct the flow of the fluid along the disc.
3. (Previously Presented): A valve according to claim 16, wherein the second duct is curved downward so as to favor the flow of the fluid from the valve.
4. (Previously Presented): A valve according to claim 11, wherein the head of the closure member has a configuration diverging from the central core at an angle of between 20° and 45°.
5. (Previously Presented): A valve according to claim 11, wherein the disc has a surface area that is 10-20% greater than a cross-section of the first duct.
6. (Previously Presented): A valve according to claim 11, wherein the closure member is made of one of either PTFE, EPDM, or other similar polymer material.
7. (Canceled)
8. (Canceled)
9. (Canceled)
10. (Canceled)

11. (Currently Amended): A shut-off valve comprising:

(a) a body having a chamber formed therein, the chamber including a first duct and a second duct each extending from the chamber, the chamber and each duct adapted to accommodate a fluid when fed through the body;

(b) a closure member including a central core, the core having a head oriented toward the first duct, the head having a larger diameter than the first duct and having a convex sealing face with respect to the first duct; and

(c) a flexible circular disc oppositely disposed from the first duct, the disc integrally formed with the head extending along both sides thereof and peripherally fixed to outer surfaces of the chamber whereby the disc separates in a sealed manner the chamber from an operating means operatively coupled to the body, the closure member selectively positionable in one of an open position and a closed position via the operating means, the convex sealing face of the head disengaged from an inner opening of the first duct in the open position of the closure member thereby permitting free flow of the fluid between the ducts, the convex sealing face of the head engaged with and partially entering the first duct inner opening in the closed position of the closure member thereby preventing the free flow of the fluid between the ducts, ~~the disc being in a tangential orientation with respect to the chamber~~ having a substantially smooth transition to an internal wall of the second duct in the closed position of the closure member, the valve configured to operate in at least two positions including a first valve position where the head is above the opening of the first duct in an open position of the closure member and a second ~~valve~~ valve position where the head is below the first duct opening in an open position of the closure member, ~~the tangential orientation of the disc with respect to the chamber~~ the substantially smooth transition of the disc in the closed position of the closure member preventing collection of fluid within the chamber regardless of whether the valve is in the first position or in the second position.

12. (Previously Presented): The valve of claim 11, wherein the closure member is a one piece member, including both the closure member and the disc.

13. (Previously Presented): The valve of claim 12, wherein the closure member is made of a flexible plastic material.

14. (Canceled)

15. (Canceled)

16. (Previously Presented): The valve of claim 11, wherein the first duct is an inlet duct and second duct is an outlet duct.

17. (Currently Amended): A shut-off valve used at a bottom of a tank containing a liquid, comprising:

(a) a body having a chamber formed therein, the chamber including an inlet duct and an outlet duct with each duct extending from the chamber, the inlet duct extending upwardly from the body to the bottom of the tank;

(b) a closure member including a central core, the core having a head oriented toward the inlet duct;

(c) a flexible circular disc oppositely disposed from the inlet duct, the disc integrally formed with the head extending along both sides thereof and peripherally fixed to outer surfaces of the chamber whereby the disc separates in a sealed manner the chamber from an operating means operatively coupled to the body, the closure member selectively positionable in one of an open position and a closed position via the operating means, the sealing face of the head disengaged from an inner opening of the inlet duct and being below the inlet duct inner opening in the open position of the closure member thereby permitting free flow of the liquid between the ducts, the sealing face of the head engaged with the inlet duct inner opening in the closed position of the closure member thereby preventing the free flow of the liquid between the ducts, the disc ~~being in a tangential orientation with respect to the chamber~~ having a substantially

smooth transition to an internal wall of the outlet duct in the closed position of the closure member thereby preventing collection of the liquid ~~by the disc~~ within the chamber.

18. (Previously Presented): The valve of claim 17, wherein the disc is directly connected to an internal wall of the outlet duct without steps or discontinuities which might obstruct the free flow of the fluid along the disc.

19. (Previously Presented): The valve of claim 17, wherein the head has a larger diameter than the inlet duct and has a convex sealing face with respect to the inlet duct thereby limiting collection of the fluid by the head.

20. (Previously Presented): The valve of claim 19, wherein the sealing face partially enters the inner opening of the inlet duct in the closed position of the closure member.

21. (Previously Presented): The valve according to claim 17, wherein the outlet duct is curved downward so as to favor the flow of the fluid from the valve.

22. (Currently Amended): The valve according to claim 11, wherein the disc tangentially extends at a substantially constant slope from the outer surfaces of the chamber across the valve body chamber to the closure member head in the closed position of the closure member.

23. (Currently Amended): The valve according to claim 17, wherein the disc tangentially extends at a substantially constant slope from the outer surfaces of the chamber across the valve body chamber to the closure member head in the closed position of the closure member.

24. (Currently Amended): ~~A shut-off valve comprising:~~ The valve according to claim 11, wherein

(a) — a body having a chamber formed therein, the chamber including a first duct and a second duct each extending from the chamber, the chamber and each duct adapted to accommodate a fluid when fed through the body;

(b) — a closure member including a central core, the core having a head oriented toward the first duct, the head having a larger diameter than the first duct and having a convex sealing face with respect to the first duct; and

(c) — a flexible circular disc oppositely disposed from the first duct, the disc integrally formed with the head extending along both sides thereof and peripherally fixed to inner surfaces of the chamber whereby the disc separates in a sealed manner the chamber from an operating means operatively coupled to the body, the closure member selectively positionable in one of an open position and a closed position via the operating means, the convex sealing face of the head disengaged from an inner opening of the first duct in the open position of the closure member thereby permitting free flow of the fluid between the ducts, the convex sealing face of the head engaged with and partially entering the first duct inner opening in the closed position of the closure member thereby preventing the free flow of the fluid between the ducts, the disc being in a convex orientation with respect to the chamber in the closed position of the closure member, the operating means ~~comprising~~ comprises an actuator body connected to the valve body, wherein the actuator body compresses an edge of the disc oriented away from the chamber against an abutment surface formed in the valve body, and wherein a sealing ring is provided between an edge of the disc and the actuator body, the core of the closure member including an end opposite the head connected to a collar movable axially in the actuator body in opposition to a resilient means compressed between the collar and a threaded sleeve that is movable axially inside the actuator body.

25. (New): A shut-off valve comprising:

(a) a body having a chamber formed therein, the body including first, second, and third ducts each extending from the chamber, the chamber and each duct adapted to accommodate a fluid when fed through the body;

(b) a closure member including a central core, the core having a head oriented toward an inner opening of the first duct, the closure member selectively positionable, via an operating means operatively coupled to the body, in one of an open position with the head disengaged from the inner opening of the first duct and a closed position with the head engaged with the inner opening of the first duct;

(c) a flexible disc integrally formed with the head, the disc diverging away from the head and peripherally fixed to outer surfaces of the chamber whereby the disc seals the chamber from the operating means, the disc having a substantially smooth transition to an internal wall of both the second and third ducts in the closed position of the closure member; and wherein

(d) the shut-off valve is configured to operate in at least two positions including a first valve position where the head is above the opening of the first duct in an open position of the closure member and a second valve position where the head is below the first duct opening in an open position of the closure member, wherein the substantially smooth transition of the disc in the closed position of the closure member prevents the collection of the fluid within the chamber when the shut-off valve is in the second valve position.

26. (New) The valve according to claim 25, wherein the disc extends at a substantially constant slope between the outer surfaces of the chamber and the closure member head in the closed position of the closure member.

27. (New) The valve according to claim 25, wherein the disc bends away from the closure member head in the open position of the closure member so that the disc is outside the path of fluid flowing into the chamber from the second and third ducts.